

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A spray head for use with pressurized water originating from a water source to produce a generally 360° spray pattern, comprising:

a body having a proximate end, a distal end, and a sidewall connecting the proximate and distal ends, said sidewall defining a plurality of sidewall ports, said body further having a cavity;

wherein the distal end of the body defines a distal port adapted to be coupled to the water source and wherein the proximate end of the body defines a proximate port;

an interior wall disposed within the body and defining at least a portion of the cavity, said interior wall further defining a plurality of interior ports;

wherein the body further defines a first channel and a plurality of secondary channels, the first channel being adapted to provide a first channel water flow path from the distal end of the body to the cavity, and each of the plurality of secondary channels being adapted to provide a second channel water flow path from one of the plurality of interior ports to one of the plurality of sidewall ports;

a member disposed within the body and defining at least one swirl port, the at least one swirl port situated in the first channel water flow path for inducing a circumferential flow component to water in the cavity;

wherein the at least one swirl port, the cavity and the proximate port are adapted to permit the pressurized water to flow from the at least one swirl port through the

cavity through the proximate port and to disperse the pressurized water radially outward away from the body in the generally 360° spray pattern;

wherein each secondary channel defines a pressure-reducing tortuous flow path to reduce the velocity of water flowing therethrough and is adapted to disperse water in a wedge-shaped spray pattern to an area close to the spray head relative to water dispersed from the proximate port; and

wherein the dispersion of water through the proximate port and each of the sidewall ports is continuous and unobstructed when water is supplied from the water source.

~~wherein each of the plurality of secondary channels includes a first turn of greater than 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of sidewall ports.~~

2. (Currently amended) ~~The spray head of claim 1~~ A spray head for use with pressurized water originating from a water source to produce a generally 360° spray pattern, comprising:

a body having a proximate end, a distal end, and a sidewall connecting the proximate and distal ends, said sidewall defining a plurality of sidewall ports, said body further having a cavity;

wherein the distal end of the body defines a distal port adapted to be coupled to the water source and wherein the proximate end of the body defines a proximate port;

an interior wall disposed within the body and defining at least a portion of the cavity, said interior wall further defining a plurality of interior ports;

wherein the body further defines a first channel and a plurality of secondary channels, the first channel being adapted to provide a first channel water flow path from the distal end of the body to the cavity, and each of the plurality of secondary

channels being adapted to provide a second channel water flow path from one of the plurality of interior ports to one of the plurality of sidewall ports;

wherein the cavity and the proximate port are adapted to permit the pressurized water to flow from the cavity through the proximate port and to disperse the pressurized water radially outward away from the body in the generally 360° spray pattern;

wherein each of the plurality of secondary channels includes a first turn of greater than 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of sidewall ports; and

wherein each of the plurality of secondary channels further includes a second turn of greater than 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of sidewall ports.

3. (Original) The spray head of claim 1 wherein each of the plurality of secondary channels comprises a channel section having one of a generally rectangular cross section, a generally square cross section, a generally pentagonal cross section and a generally hexagonal cross section.

4. (Original) The spray head of claim 1 wherein at least a portion of the interior wall has a generally concave shape.

5. (Original) The spray head of claim 1 wherein the body has a generally cylindrical shape and wherein the sidewall has a generally circular cross-section.

6. (Original) The spray head of claim 1 wherein the first channel water flow path follows a generally vertical direction.

7. (Currently amended) The spray head of claim [1] 2 wherein each of the plurality of secondary channels includes an end channel portion that terminates at one of the plurality of sidewall ports, wherein for each of the plurality of secondary channels, the body is further comprised of a flow path top wall, a flow path bottom wall and two flow path sidewalls connecting the flow path top and bottom walls, wherein the flow path top wall, bottom wall and sidewalls define the end channel portion, and wherein the flow path sidewalls are spaced apart from one another by a progressively increasing distance.

8. (Original) The spray head of claim 1 wherein the first channel water flow path follows a generally vertical direction, wherein the proximate port is at a first elevation above the distal port, wherein each of the plurality of sidewall ports is at a second elevation above the distal port, said second elevation being less than the first elevation, and wherein each of the plurality of interior ports is at a third elevation above the distal port, said third elevation being less than the second elevation.

9. (Currently amended) ~~The spray head of claim 8~~ A spray head for use with pressurized water originating from a water source to produce a generally 360° spray pattern, comprising:

a body having a proximate end, a distal end, and a sidewall connecting the proximate and distal ends, said sidewall defining a plurality of sidewall ports, said body further having a cavity;

wherein the distal end of the body defines a distal port adapted to be coupled to the water source and wherein the proximate end of the body defines a proximate port;

an interior wall disposed within the body and defining at least a portion of the cavity, said interior wall further defining a plurality of interior ports;

wherein the body further defines a first channel and a plurality of secondary channels, the first channel being adapted to provide a first channel water flow path from the distal end of the body to the cavity, and each of the plurality of secondary channels being adapted to provide a second channel water flow path from one of the plurality of interior ports to one of the plurality of sidewall ports;

wherein the cavity and the proximate port are adapted to permit the pressurized water to flow from the cavity through the proximate port and to disperse the pressurized water radially outward away from the body in the generally 360° spray pattern;

wherein each of the plurality of secondary channels includes a first turn of greater than 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of sidewall ports;

wherein the first channel water flow path follows a generally vertical direction, wherein the proximate port is at a first elevation above the distal port, wherein each of the plurality of sidewall ports is at a second elevation above the distal port, said second elevation being less than the first elevation, and wherein each of the plurality of interior ports is at a third elevation above the distal port, said third elevation being less than the second elevation; and

wherein each of the plurality of secondary channels comprises a first portion extending radially outwardly from one of the plurality of interior ports, a second portion extending upwardly from the first portion, and a third portion extending radially outwardly from the second portion, said third portion terminating at one of the plurality of sidewall ports.

10. (Original) The spray head of claim 9 wherein the second portion comprises a channel section having one of a generally rectangular cross section, a generally square cross section, a generally pentagonal cross section and a generally hexagonal cross section.

11. (Currently amended) ~~The spray head of claim 1~~ A spray head for use with pressurized water originating from a water source to produce a generally 360° spray pattern, comprising:

a body having a proximate end, a distal end, and a sidewall connecting the proximate and distal ends, said sidewall defining a plurality of sidewall ports, said body further having a cavity;

wherein the distal end of the body defines a distal port adapted to be coupled to the water source and wherein the proximate end of the body defines a proximate port;

an interior wall disposed within the body and defining at least a portion of the cavity, said interior wall further defining a plurality of interior ports;

wherein the body further defines a first channel and a plurality of secondary channels, the first channel being adapted to provide a first channel water flow path from the distal end of the body to the cavity, and each of the plurality of secondary channels being adapted to provide a second channel water flow path from one of the plurality of interior ports to one of the plurality of sidewall ports;

wherein the cavity and the proximate port are adapted to permit the pressurized water to flow from the cavity through the proximate port and to disperse the pressurized water radially outward away from the body in the generally 360° spray pattern;

wherein each of the plurality of secondary channels includes a first turn of greater than 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of sidewall ports; and

wherein the first channel water flow path follows a generally vertical direction, wherein the proximate port is at a first elevation above the distal port, wherein each of the plurality of sidewall ports is at a second elevation above the distal port, said second elevation being less than the first elevation, wherein each of the plurality of interior ports is at a third elevation above the distal port, said third elevation being generally the same as the second elevation, and wherein each of the plurality of second channel water flow paths is at generally the same elevation as the third elevation.

12. (Original) A spray head for use with pressurized water originating from a water source to produce a generally 360° spray pattern, comprising:

a base member having a proximate end and a distal end wherein the distal end is adapted to be coupled to the water source;

a cap member connected to the base member and disposed generally at the base member proximate end, the cap member having an upper cap surface, a lower cap surface, and an exterior wall connecting the upper and lower cap surfaces, wherein the upper cap surface defines an upper port;

wherein the base member and the cap member define a first channel adapted to provide a first channel water flow path from the distal end of the base member through the upper port of the cap member, the first channel and the upper port being further adapted to cause the pressurized water to disperse radially outward away from the cap member in the generally 360° spray pattern;

wherein the cap member further has an interior wall that defines a plurality of interior ports, wherein the cap member exterior wall defines a plurality of exterior ports, and wherein the cap member defines a plurality of secondary channels each of which is adapted to provide a second channel water flow path from one of the plurality of interior ports to one of the plurality of exterior ports; and

wherein each of the plurality of secondary channels includes a first turn of 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of exterior ports.

13. (Original) The spray head of claim 12 further comprising a center member disposed generally between the cap member upper port and the base member distal end and having a center member port that defines at least a portion of the first channel.

14. (Original) The spray head of claim 12 wherein each of the plurality of secondary channels further includes a second turn of greater than 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of exterior ports.

15. (Original) The spray head of claim 12 wherein each of the plurality of secondary channels comprises a channel section having one of a generally rectangular cross section, a generally square cross section, a generally pentagonal cross section and a generally hexagonal cross section.

16. (Original) The spray head of claim 12 wherein the base member and the cap member define a generally cylindrical-shaped body when the cap member is connected to the base member.

17. (Original) The spray head of claim 12 wherein at least a portion of the cap member interior wall has a generally concave shape.

18. (Original) The spray head of claim 12 wherein the first channel water flow path follows a generally vertical direction.



19. (Original) The spray head of claim 12 wherein each of the plurality of secondary channels includes an end channel portion that terminates at one of the plurality of exterior ports, wherein for each of the plurality of secondary channels, the cap member further comprises a flow path top wall, a flow path bottom wall and two flow path sidewalls connecting the flow path top and bottom walls, wherein the flow path top wall, bottom wall and sidewalls define the end channel portion, and wherein the flow path sidewalls are spaced apart from one another by a progressively increasing distance.

20. (Original) The spray head of claim 12 wherein the first channel water flow path follows a generally vertical direction, wherein the cap member upper port is at a first elevation above the base member distal end, each of the plurality of cap member exterior ports is at a second elevation above the base member distal end, said second elevation being less than the first elevation, and each of the plurality of cap member interior ports is at a third elevation above the base member distal end, said third elevation being less than the second elevation.

21. (Original) The spray head of claim 20 wherein each of the plurality of secondary channels comprises a first portion extending radially outwardly from one of the plurality of cap member interior ports, a second portion extending upwardly from the first portion, and a third portion extending radially outwardly from the second portion, said third portion terminating at one of the plurality of cap member exterior ports.

22. (Original) The spray head of claim 21 wherein the second portion comprises a channel section having one of a generally rectangular cross section, a generally square

cross section, a generally pentagonal cross section and a generally hexagonal cross section.

23. (Original) The spray head of claim 12 wherein the first channel water flow path follows a generally vertical direction, wherein the cap member upper port is at a first elevation above the base member distal end, each of the plurality of cap member exterior ports is at a second elevation above the base member distal end, said second elevation being less than the first elevation, each of the plurality of cap member interior ports is at a third elevation above the base member distal end, said third elevation being generally the same as the second elevation, and wherein each of the plurality of second channel water flow paths is at generally the same elevation as the third elevation.

24. (Currently amended) A spray head for use with pressurized water originating from water source to produce a generally 360° spray pattern, said pressurized water including a first portion of pressurized water and a second portion of pressurized water, the spray head comprising:

a body having a proximate end, a distal end, and a sidewall connecting the proximate and distal ends, said proximate end defining a proximate port;

means for coupling the water source to the distal end of the body;

a member disposed within the body and defining at least one swirl port, the at least one swirl port inducing a circumferential flow component to the first portion of pressurized water;

means for dispersing the first portion of the pressurized water through the proximate port in a direction radially outward away from the body in the generally 360° spray pattern at a first water velocity; ~~and~~

means for dispersing the second portion of the pressurized water in a direction radially outward away from the body in the generally 360° spray pattern at a second

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water velocity that is less than the first water velocity and to an area close to the spray head relative to the first portion of pressurized water dispersed through the proximate port, ~~said dispersing means comprising a channel that includes a turn of greater than 70° formed in the channel[.]; and~~

wherein the dispersion of the first portion of pressurized water and the second portion of pressurized water is continuous and unobstructed when water is supplied from the water source.

25. (New) The spray head of claim 1 wherein the member comprises a disk defining a plurality of swirl ports therethrough, the swirl ports symmetrically disposed about the disk and each defining a tapered opening.